

**WHAT IS CLAIMED IS:**

1. An airlock system utilizable with a protected Toxic Free Area (TFA) defined by an enclosure comprising:

spaced-apart first and second door arrangements, each door arrangement having an entrance and an exit and being divided by partitions into a plurality of sections;

an airlock space coupled to, and bridging between, said first and second door arrangement;

at least the exit of said second door being connectable to the protected TFA, while the first door arrangement having its entrance located outside said TFA;

the arrangement being such that there is no direct airflow from the entrance of said first door arrangement to the exit of said second door arrangement.

2. The system as claimed in claim 1, wherein there are provided means for creating overpressure in the TFA and air is directed from the TFA through the entrance of said second door arrangement towards the exit of said first door arrangement.

3. The system as claimed in claim 2, wherein said air is propelled by means of at least one blower and/or an overpressure regulating valve.

4. The system as claimed in claim 1, wherein said airlock space having side walls, a floor and a ceiling, further comprising a purging device directing air along and/or across said space.

5. The system as claimed in claim 4, wherein said air is directed from the ceiling towards the floor via a filter/blower.

6. The system as claimed in claim 1, wherein at least one of said first and second door arrangement is a rotating door.
7. The system as claimed in claim 6, wherein at least one section between two adjacent partitions in any one of said rotating doors is fitted with a purging device.
8. The system as claimed in claim 7, wherein said purging device comprises a perforated ceiling, a rotatable perforated floor and channel portions alternately interconnecting spaces above the ceiling and below the floor bridging two adjacent sections, so as to facilitate purging air to meander from the ceiling of one section downwards towards the floor and then upwards towards the ceiling of an adjacent section.
9. The system as claimed in claim 7, further comprising pipes interconnecting channel portions above the ceiling and below the floor of adjacent sections, so as to direct air from below the floor portion to above a ceiling portion of an adjacent section.
10. The system as claimed in claim 1, further comprising a first additional door arrangement and airlock space coupled to the entrance of said first door arrangement and a second additional airlock space and a door arrangement coupled to said second door arrangement, so as to form a closed system having a sequence of  $n$  door arrangements alternating with  $n-1$  airlock spaces, wherein  $n$  is an integer number.
11. A method for facilitating entrance and egress from a Toxic Free Area (TFA) defined by an enclosure, without the danger of contamination of the protected TFA, comprising:
  - providing at least one airlock system including spaced-apart first and second door arrangements each having an entrance and an exit and being divided by partitions into a

plurality of sections, and an airlock space coupled to, and bridging between, said first and second door arrangements;

operationally interconnecting said TFA with said system so that at least the exit of said second door arrangement being connectable to the protected TFA, while the first door arrangement having its entrance located outside said TFA, and

directing toxic-free airflow from the entrance of said second door arrangement to the exit of said first door arrangement.

12. The method as claimed in claim 11, wherein said toxic-free air is directed from said TFA.

13. The method as claimed in claim 11, wherein said air is propelled at a rate higher than 0.3 m/s.

14. The method as claimed in claim 11, wherein there is provided at least one purging device associated with a door arrangement and/or an airlock space, and during operation, directing air through and/or across said door arrangement and/or space for purging persons passing therethrough.

15. The method as claimed in claim 14, wherein purging air flowing through said door arrangement is propelled from one section to another via perforated ceilings and floors having channel portions interconnecting two adjacent sections.

16. The method as claim in claim 14, wherein purging air flowing through said door arrangement is propelled from one section to another via pipes extending from a channel under a perforated floor area in one section, to a channel above the ceiling area of an adjacent section, wherein said channels bridge two adjacent sections.